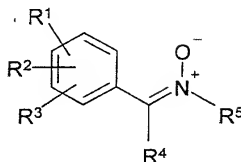


WHAT IS CLAIMED IS:

1. A compound of formula I:



wherein

R<sup>1</sup> is selected from the group consisting of alkoxy, alkarylloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl;

provided that:

(i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;

(ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;

(iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;

(iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;

(v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;

(vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

(vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

2. The compound according to Claim 1 wherein R<sup>4</sup> is hydrogen.

3. The compound according to Claim 2 wherein R<sup>3</sup> is selected from the group consisting of hydrogen and alkoxy.

4. The compound according to Claim 3 wherein R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy and fluoro.

5. The compound according to Claim 4 wherein R<sup>1</sup> is selected from the group consisting of alkoxy, alkarylloxy and cycloalkoxy.

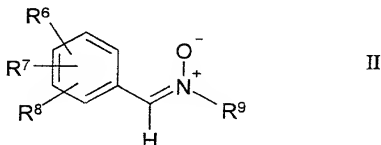
6. The compound according to Claim 4 wherein R<sup>1</sup> and R<sup>2</sup> are joined together to form an alkylenedioxy group.

7. The compound according to Claim 5 or 6 wherein R<sup>5</sup> is selected from the group consisting of alkyl having 3 to about 8 carbon atoms and cycloalkyl having 3 to about 10 carbon atoms.

8. The compound according to Claim 7 wherein R<sup>5</sup> is selected from the group consisting of *n*-propyl, isopropyl, 1-methoxy-2-methylprop-2-yl, *n*-butyl, but-2-yl, *tert*-butyl, 2-methylbut-2-yl, 3-methylbut-1-yl, 3,3-dimethylbut-2-yl, 4-methylpent-2-yl, 2,4-dimethyl-2-pentyl, 2,2,4,4-tetramethylpent-3-yl,

cyclopropyl, cyclobutyl, *tert*-octyl, cyclopentyl, cyclohexyl, cyclooctyl, 1-adamantyl, 2-adamantyl, 3,5-dimethyl-1-adamantyl and benzyl.

9. A compound of formula II:



wherein

$R^6$  is selected from the group consisting of alkoxy having 1 to 8 carbon atoms, alkarylloxy having 7 to 10 carbon atoms and aryloxy having 6 to 10 carbon atoms;

15  $R^7$  is selected from the group consisting of alkoxy having 1 to 8 carbon atoms and fluoro, or when  $R^6$  and  $R^7$  are attached to adjacent carbon atoms,  $R^6$  and  $R^7$  may be joined together to form an alkylenedioxy group having 1 to about 6 carbon atoms;

20  $R^8$  is selected from the group consisting of hydrogen and alkoxy having 1 to 8 carbon atoms; and

$R^9$  is selected from the group consisting of alkyl having 3 to about 8 carbon atoms, substituted alkyl having 3 to about 8 carbon atoms and cycloalkyl having 3 to about 10 carbon atoms;

provided that:

25 (i) when  $R^7$  is methoxy and  $R^8$  is hydrogen or methoxy,  $R^6$  is not methoxy;

(ii) when  $R^6$  and  $R^7$  are joined together to form a 3,4-methylenedioxy group and  $R^8$  is hydrogen, then  $R^9$  is not isopropyl or *tert*-butyl; and

30 (iii) when  $R^6$  is 4-methoxy,  $R^7$  is 3-ethoxy and  $R^8$  is hydrogen, then  $R^9$  is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl.

10. The compound according to Claim 9 wherein R<sup>6</sup> is alkoxy having 1 to 8 carbon atoms, R<sup>7</sup> is alkoxy having 2 to 8 carbon atoms and R<sup>8</sup> is hydrogen.

11. The compound according to Claim 10 wherein R<sup>6</sup> is methoxy, R<sup>7</sup> is ethoxy and R<sup>8</sup> is hydrogen.

12. The compound according to Claim 9 wherein R<sup>6</sup> is ethoxy; and R<sup>7</sup> and R<sup>8</sup> are hydrogen.

13. The compound according to Claim 9 wherein R<sup>6</sup> is benzyloxy, R<sup>7</sup> is alkoxy having 1 to 8 carbon atoms, and R<sup>8</sup> is hydrogen.

14. The compound according to Claim 9 wherein R<sup>6</sup> is benzyloxy; and R<sup>7</sup> and R<sup>8</sup> are hydrogen.

15. The compound according to Claim 9 wherein R<sup>6</sup> is alkoxy having 1 to 8 carbon atoms, R<sup>7</sup> is fluoro and R<sup>8</sup> is hydrogen.

16. The compound according to Claim 9 wherein R<sup>6</sup> and R<sup>7</sup> are joined together to form a methylenedioxy or ethylenedioxy group and R<sup>8</sup> is hydrogen.

17. The compound according to Claim 9 wherein R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are each independently alkoxy having 2 to 8 carbon atoms.

18. A compound selected from the group consisting of:

$\alpha$ -(4-heptyloxyphenyl)-*N-tert*-butylnitrone

$\alpha$ -(4-hexyloxyphenyl)-*N-n*-propylnitrone

$\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N-tert*-butylnitrone

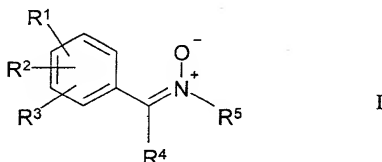
- $\alpha$ -(4-ethoxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -(4-benzyloxy-3-methoxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -[3-(4-methoxyphenoxy)phenyl]-*N-tert*-butylnitrone
- $\alpha$ -(2-ethoxyphenyl)-*N-tert*-butylnitrone
- 5  $\alpha$ -(3,4-ethylenedioxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -(3,4-methylenedioxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -(4-ethoxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(4-benzyloxy-3-methoxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-cyclohexylnitrone
- 10  $\alpha$ -(3,4-ethylenedioxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(4-ethoxy-3-methoxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(3,4-ethylenedioxyphenyl)-*N*-isopropylnitrone
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-isopropylnitrone
- $\alpha$ -(2-ethoxyphenyl)-*N*-isopropylnitrone
- 15  $\alpha$ -(2-ethoxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(4-benzyloxy-3-methoxyphenyl)-*N*-isopropylnitrone
- $\alpha$ -(4-ethoxy-3-methoxyphenyl)-*N*-isopropylnitrone
- $\alpha$ -(3-ethoxy-4-hexyloxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(4-benzyloxy-3-methoxyphenyl)-*N-n*-butylnitrone
- 20  $\alpha$ -(4-ethoxy-3-methoxyphenyl)-*N-n*-butylnitrone
- $\alpha$ -(2-ethoxyphenyl)-*N-n*-butylnitrone
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N-n*-butylnitrone
- $\alpha$ -(3-ethoxy-4-hexyloxyphenyl)-*N*-isopropylnitrone
- $\alpha$ -(3-ethoxy-4-hexyloxyphenyl)-*N-tert*-butylnitrone
- 25  $\alpha$ -(2-fluoro-4-octyloxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -(2,4,6-triethoxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -(2,4,6-triethoxyphenyl)-*N*-cyclohexylnitrone
- $\alpha$ -(2-*n*-butoxyphenyl)-*N-tert*-butylnitrone
- $\alpha$ -(3,4-diethoxyphenyl)-*N-tert*-butylnitrone
- 30  $\alpha$ -(2-fluoro-4-heptyloxyphenyl)-*N-tert*-butylnitrone

- 5  $\alpha$ -(2-fluoro-4-ethoxyphenyl)-*N-tert*-butylnitron  
 $\alpha$ -(2-fluoro-4-ethoxyphenyl)-*N*-cyclohexylnitron  
 $\alpha$ -(2-ethoxyphenyl)-*N*-adamantylnitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-adamantylnitron  
5  $\alpha$ -(4-ethoxyphenyl)-*N*-cyclopentylnitron  
 $\alpha$ -(4-ethoxyphenyl)-*N-tert*-octylnitron  
 $\alpha$ -(4-benzyloxyphenyl)-*N-tert*-butylnitron  
 $\alpha$ -(4-benzyloxyphenyl)-*N*-cyclopentylnitron  
10  $\alpha$ -(4-benzyloxyphenyl)-*N*-cyclohexylnitron  
 $\alpha$ -(2-ethoxyphenyl)-*N*-cyclopentylnitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N-tert*-octylnitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(2,4-dimethyl-2-pentyl)nitron  
 $\alpha$ -(4-ethoxyphenyl)-*N-n*-butylnitron  
 $\alpha$ -(2-ethoxyphenyl)-*N*-benzylnitron  
15  $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(2,2,4,4-tetramethylpent-3-yl)nitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(4-methylpent-2-yl)nitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-but-2-ylnitron  
 $\alpha$ -(2-ethoxyphenyl)-*N*-but-2-ylnitron  
 $\alpha$ -[4-(4-fluorobenzyloxy)phenyl]-*N-tert*-butylnitron  
20  $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-cyclopentylnitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N-n*-propylnitron  
 $\alpha$ -(4-benzyloxyphenyl)-*N-n*-propylnitron  
 $\alpha$ -(4-benzyloxyphenyl)-*N*-isopropylnitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(2-methylbut-2-yl)nitron  
25  $\alpha$ -(2-ethoxyphenyl)-*N*-(2-methylbut-2-yl)nitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-cyclooctylnitron  
 $\alpha$ -(2-ethoxyphenyl)-*N*-cyclobutylnitron  
 $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-cyclobutylnitron  
 $\alpha$ -(4-benzyloxyphenyl)-*N*-cyclobutylnitron  
30  $\alpha$ -(4-benzyloxyphenyl)-*N-tert*-octylnitron

- $\alpha$ -[4-(4-fluorobenzyloxy)phenyl]-*N*-cyclohexylnitron
- $\alpha$ -(2-ethoxyphenyl)-*N*-*tert*-octylnitron
- $\alpha$ -[4-(4-fluorobenzyloxy)phenyl]-*N*-isopropylnitron
- $\alpha$ -(2-ethoxyphenyl)-*N*-cyclooctylnitron
- 5  $\alpha$ -(4-benzyloxyphenyl)-*N*-cyclopropylnitron
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-cyclopropylnitron
- $\alpha$ -(4-benzyloxyphenyl)-*N*-cyclooctylnitron
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(3,5-dimethyl-1-adamantyl)nitron
- $\alpha$ -(4-benzyloxyphenyl)-*N*-1-adamantylnitron
- 10  $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(1-methoxy-2-methylprop-2-yl)nitron
- $\alpha$ -(4-benzyloxyphenyl)-*N*-2-adamantylnitron
- $\alpha$ -(4-ethoxyphenyl)-*N*-cyclooctylnitron
- $\alpha$ -(4-ethoxyphenyl)-*N*-1-adamantylnitron
- 15  $\alpha$ -[4-(4-methoxybenzyloxy)phenyl]-*N*-*tert*-butylnitron
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-(3-methylbut-1-yl)nitron
- $\alpha$ -(3-ethoxy-4-methoxyphenyl)-*N*-cyclooctylnitron, and
- $\alpha$ -[4-(4-fluorobenzyloxy)phenyl]-*N*-cyclopentylnitron.
19.  $\alpha$ -(2-Ethoxyphenyl)-*N*-*tert*-butylnitron.
20.  $\alpha$ -(2-Ethoxyphenyl)-*N*-cyclohexylnitron.
21.  $\alpha$ -(4-Ethoxyphenyl)-*N*-cyclohexylnitron.
22.  $\alpha$ -(4-Benzyloxyphenyl)-*N*-*tert*-butylnitron.
23.  $\alpha$ -(4-Benzyloxyphenyl)-*N*-cyclopentylnitron.
24.  $\alpha$ -(3-Ethoxy-4-methoxyphenyl)-*N*-adamantylnitron.

25.  $\alpha$ -(3-Ethoxy-4-methoxyphenyl)-*N*-*tert*-octylnitron.

26. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a pharmaceutically effective amount of a compound of formula I:



wherein

15 R<sup>1</sup> is selected from the group consisting of alkoxy, alkaryloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

20 R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, alkycycloalkyl and cycloalkyl;

25 provided that:

(i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;

(ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;



(iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;

(iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;

5 (v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;

(vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

10 (vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

27. The pharmaceutical composition according to Claim 26 wherein R<sup>4</sup> is hydrogen.

15 28. The pharmaceutical composition according to Claim 27 wherein R<sup>3</sup> is selected from the group consisting of hydrogen and alkoxy.

29. The pharmaceutical composition according to Claim 28 wherein R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy and fluoro.

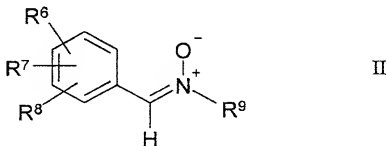
20 30. The pharmaceutical composition according to Claim 29 wherein R<sup>1</sup> is selected from the group consisting of alkoxy, alkaryloxy and cycloalkoxy.

25 31. The pharmaceutical composition according to Claim 29 wherein R<sup>1</sup> and R<sup>2</sup> are joined together to form an alkylendioxy group.

32. The pharmaceutical composition according to Claim 30 or 31 wherein R<sup>5</sup> is selected from the group consisting of alkyl having 3 to about 8 carbon atoms and cycloalkyl having 3 to about 8 carbon atoms.

33. The pharmaceutical composition according to Claim 32 wherein R<sup>5</sup> is selected from the group consisting of *n*-propyl, isopropyl, 1-methoxy-2-methylpropan-2-yl, *n*-butyl, but-2-yl, *tert*-butyl, 2-methylbut-2-yl, 3-methylbut-1-yl, 3,3-dimethylbut-2-yl, 4-methylpent-2-yl, 2,4-dimethyl-2-pentyl, 2,2,4,4-tetramethylpent-3-yl, cyclopropyl, cyclobutyl, *tert*-octyl, cyclopentyl, cyclohexyl, cyclooctyl, 1-adamantyl, 2-adamantyl, 3,5-dimethyl-1-adamantyl and benzyl.

34. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a pharmaceutically effective amount of formula II:



wherein

R<sup>6</sup> is selected from the group consisting of alkoxy having 1 to 8 carbon atoms, alkaryloxy having 7 to 10 carbon atoms and aryloxy having 6 to 10 carbon atoms;

R<sup>7</sup> is selected from the group consisting of alkoxy having 1 to 8 carbon atoms and fluoro, or when R<sup>6</sup> and R<sup>7</sup> are attached to adjacent carbon atoms, R<sup>6</sup> and R<sup>7</sup> may be joined together to form an alkylenedioxy group having 1 to about 6 carbon atoms;

R<sup>8</sup> is selected from the group consisting of hydrogen and alkoxy having 1 to 8 carbon atoms; and

R<sup>9</sup> is selected from the group consisting of alkyl having 3 to about 8 carbon atoms, substituted alkyl having 3 to about 8 carbon atoms and cycloalkyl having 3 to about 10 carbon atoms;

provided that:

(i) when R<sup>7</sup> is methoxy and R<sup>8</sup> is hydrogen or methoxy, R<sup>6</sup> is not methoxy;

(ii) when R<sup>6</sup> and R<sup>7</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>8</sup> is hydrogen, then R<sup>9</sup> is not isopropyl or *tert*-butyl; and

(iii) when R<sup>6</sup> is 4-methoxy, R<sup>7</sup> is 3-ethoxy and R<sup>8</sup> is hydrogen, then R<sup>9</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl.

35. The pharmaceutical composition according to Claim 34 wherein R<sup>6</sup> is alkoxy having 1 to 8 carbon atoms, R<sup>7</sup> is alkoxy having 2 to 8 carbon atoms and R<sup>8</sup> is hydrogen.

36. The pharmaceutical composition according to Claim 35 wherein R<sup>6</sup> is methoxy, R<sup>7</sup> is ethoxy and R<sup>8</sup> is hydrogen.

37. The pharmaceutical composition according to Claim 34 wherein R<sup>6</sup> is benzyloxy, 4-fluorobenzyloxy or 4-methoxybenzyloxy and R<sup>7</sup> and R<sup>8</sup> are hydrogen.

38. The pharmaceutical composition according to Claim 34 wherein R<sup>6</sup> is ethoxy and R<sup>7</sup> and R<sup>8</sup> are hydrogen.

39. The pharmaceutical composition according to Claim 34 wherein R<sup>6</sup> is alkoxy having 1 to 8 carbon atoms, R<sup>7</sup> is fluoro and R<sup>8</sup> is hydrogen.

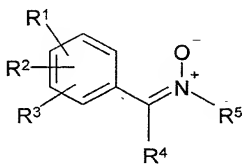
40. The pharmaceutical composition according to Claim 34 wherein R<sup>6</sup> and R<sup>7</sup> are joined together to form a methylenedioxy or ethylenedioxy group and R<sup>8</sup> is hydrogen.

41. The pharmaceutical composition according to Claim 34 wherein  
R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are each independently alkoxy having 2 to 8 carbon atoms.

42. The pharmaceutical composition according to Claim 26 or 34  
wherein the carrier is an oral carrier.

43. The pharmaceutical composition according to Claim 26 or 34  
wherein the carrier is an injectable carrier.

44. A method for treating a patient with a neurodegenerative disease  
which method comprises administering to said patient a pharmaceutical  
composition comprising a pharmaceutically acceptable carrier and an effective  
neurodegenerative disease-treating amount of a compound of formula I:



wherein

R<sup>1</sup> is selected from the group consisting of alkoxy, alkaryloxy,  
alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy,  
alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to  
adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an  
alkylenedioxy group;

R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy,  
alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl;

provided that:

(i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;

(ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;

(iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;

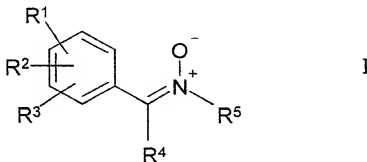
(iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;

(v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;

(vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

(vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

45. A method for preventing the onset of a neurodegenerative disease in a patient at risk for developing the neurodegenerative disease which method comprises administering to said patient a pharmaceutical composition comprising a pharmaceutically acceptable carrier and an effective neurodegenerative disease-preventing amount of a compound of formula I:



wherein

R<sup>1</sup> is selected from the group consisting of alkoxy, alkaryloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl; provided that:

(i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;

(ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;

(iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;

(iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;

(v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;

(vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

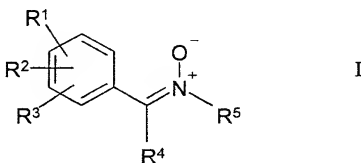
(vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

46. The method according to Claim 44 or 45 wherein the neurodegenerative disease is Alzheimer's disease.

47. The method according to Claim 44 or 45 wherein the neurodegenerative disease is Parkinson's disease.

48. The method according to Claim 44 or 45 wherein the neurodegenerative disease is HIV dementia.

49. A method for treating a patient with an autoimmune disease which method comprises administering to said patient a pharmaceutical composition comprising a pharmaceutically acceptable carrier and an effective autoimmune disease-treating amount of a compound of formula I:



wherein

R<sup>1</sup> is selected from the group consisting of alkoxy, alkaryloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl;

provided that:

(i) when  $R^2$  and  $R^3$  are independently hydrogen or methoxy,  $R^1$  is not methoxy;

(ii) when  $R^2$ ,  $R^3$  and  $R^4$  are hydrogen and  $R^5$  is *tert*-butyl, then  $R^1$  is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;

(iii) when  $R^2$ ,  $R^3$  and  $R^4$  are hydrogen and  $R^5$  is isopropyl, then  $R^1$  is not 4-ethoxy;

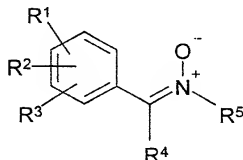
(iv) when  $R^1$  and  $R^2$  are joined together to form a 3,4-methylenedioxy group and  $R^3$  and  $R^4$  are hydrogen, then  $R^5$  is not isopropyl or *tert*-butyl;

(v) when  $R^2$ ,  $R^3$  and  $R^4$  are hydrogen and  $R^5$  is 1-hydroxy-2-methylprop-2-yl, then  $R^1$  is not 2-ethoxy;

(vi) when  $R^1$  is 4-methoxy,  $R^2$  is 3-ethoxy, and  $R^3$  and  $R^4$  are hydrogen, then  $R^5$  is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

(vii) when  $R^3$  and  $R^4$  are hydrogen and  $R^5$  is *tert*-butyl, then  $R^1$  is not 4-methoxy when  $R^2$  is 2-fluoro, and  $R^1$  is not 2-methoxy when  $R^2$  is 4-fluoro.

50. A method for preventing the onset of an autoimmune disease in a patient at risk for developing the autoimmune disease which method comprises administering to said patient a pharmaceutical composition comprising a pharmaceutically acceptable carrier and an effective autoimmune disease-preventing amount of a compound of formula I:



wherein

$R^1$  is selected from the group consisting of alkoxy, alkaryloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;



R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkylcycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

5 R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkylcycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl;

10 provided that:

(i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;

(ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;

15 (iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;

(iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;

20 (v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;

(vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

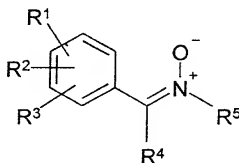
(vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

25

51. The method according to Claim 49 or 50 wherein the autoimmune disease is systemic lupus.

52. The method according to Claim 49 or 50 wherein the autoimmune  
30 disease is multiple sclerosis.

53. A method for treating a patient with an inflammatory disease which method comprises administering to said patient a pharmaceutical composition comprising a pharmaceutically acceptable carrier and an effective inflammatory disease-treating amount of a compound of formula I:



wherein

R<sup>1</sup> is selected from the group consisting of alkoxy, alkaryloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl;

provided that:

(i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;

(ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;

(iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;

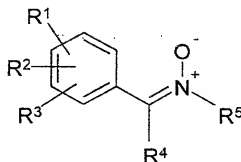
(iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;

(v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;

(vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and

(vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

54. A method for preventing the onset of an inflammatory disease in a patient at risk for developing the inflammatory disease which method comprises administering to said patient a pharmaceutical composition comprising a pharmaceutically acceptable carrier and an effective inflammatory disease-preventing amount of a compound of formula I:



wherein

R<sup>1</sup> is selected from the group consisting of alkoxy, alkarylloxy, alkycycloalkoxy, aryloxy, and cycloalkoxy;

R<sup>2</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen, or when R<sup>1</sup> and R<sup>2</sup> are attached to adjacent carbon atoms, R<sup>1</sup> and R<sup>2</sup> may be joined together to form an alkylenedioxy group;

R<sup>3</sup> is selected from the group consisting of hydrogen, alkoxy, alkycycloalkoxy, cycloalkoxy and halogen;

R<sup>4</sup> is selected from the group consisting of hydrogen and alkyl;

R<sup>5</sup> is selected from the group consisting of alkyl having at least 3 carbon atoms, substituted alkyl having at least 3 carbon atoms and cycloalkyl; provided that:

- 5 (i) when R<sup>2</sup> and R<sup>3</sup> are independently hydrogen or methoxy, R<sup>1</sup> is not methoxy;
- (ii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-*n*-butoxy, 4-*n*-pentyloxy or 4-*n*-hexyloxy;
- 10 (iii) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is isopropyl, then R<sup>1</sup> is not 4-ethoxy;
- (iv) when R<sup>1</sup> and R<sup>2</sup> are joined together to form a 3,4-methylenedioxy group and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not isopropyl or *tert*-butyl;
- (v) when R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is 1-hydroxy-2-methylprop-2-yl, then R<sup>1</sup> is not 2-ethoxy;
- 15 (vi) when R<sup>1</sup> is 4-methoxy, R<sup>2</sup> is 3-ethoxy, and R<sup>3</sup> and R<sup>4</sup> are hydrogen, then R<sup>5</sup> is not 2,2-dimethylbut-3-yl or 1-hydroxy-2-methylprop-2-yl; and
- (vii) when R<sup>3</sup> and R<sup>4</sup> are hydrogen and R<sup>5</sup> is *tert*-butyl, then R<sup>1</sup> is not 4-methoxy when R<sup>2</sup> is 2-fluoro, and R<sup>1</sup> is not 2-methoxy when R<sup>2</sup> is 4-fluoro.

20 55. The method according to Claim 53 or 54 wherein the inflammatory disease is rheumatoid arthritis.

56. The method according to Claim 53 or 54 wherein the inflammatory disease is septic shock.

25 57. The method according to Claim 53 or 54 wherein the inflammatory disease is erythema nodosum leprosy.

58. The method according to Claim 53 or 54 wherein the inflammatory disease is septicemia.

30

59. The method according to Claim 53 or 54 wherein the inflammatory disease is uveitis.

5 60. The method according to Claim 53 or 54 wherein the inflammatory disease is adult respiratory distress syndrome.

61. The method according to Claim 53 or 54 wherein the inflammatory disease is inflammatory bowel disease.